REMARKS/ARGUMENTS

The election of Species at Paragraph 1 of the Office Action is noted. In view of the arguments below regarding the patentability of the independent claims over the rejections, consideration and allowance of the non-elected species is requested.

The applicants acknowledge with appreciation the allowance of claims 25, 28, 31, 33 and 34 and the indication that claims 18, 27, 30 and 32 would be allowable but for their dependence on a rejected base claim.

In response to the objections to claims 8 and 15, the claims have been amended to provide the antecedent basis and to make the other changes that the Office has suggested.

Paragraph 5 of the Office action rejects claims 1-3, 8-10, 15 and 20-22 as being anticipated by US Patent 4, 629,336 to Ishizaka. Figures 1, 2, 8 and 9, column 15, line 10-column 16, line 36; and column 19, lines 15-49 of Ishizaka are particularly cited for the rejection. The applicants submit that the Ishizaka reference teaches a predictive thermometer with a display as its final output and that Ishizaka does not teach a resistive output thermometer or modifying the resistive output as claimed by applicants. Claims 1 and 8 recite "a mean for providing a resistive output" and claim 20 recites "a means for providing a resistance corresponding to the predicted or correlated output." Clearly the Ishizaka reference does not teach these limitations and as such the reference cannot anticipate the claimed invention.

Paragraph 6 of the Office action rejects claims 1-3, 8-10 and 20-22 as anticipated by US Patent 5,876,122 to Eryurek. Column 1, lines 11-39 of Eryurek are cited from the reference. The applicants note that Eryurek provides a 4-20mA output which is commonly used in control circuits. Eryurek does not teach a resistive output thermometer. Eryurek provides a measurement of sheath-to-lead voltage and insulation resistance which can be used to evaluate current sensor performance or predict future performance. According to the disclosure in the reference, the Eryurek circuit is designed to measure a parasitic voltage generated between the sensor sheath and one of the element leads. The measurements can be monitored over time for determining a residual life estimation of the sensor and for identifying errors that may be

occurring or developing. Also according to the reference, the insulation resistance and sheath-to-lead voltage measurements can be used as compensation variables to reduce or eliminate temperature measurement errors caused by changes in insulation resistance or parasitic sheath-to-lead voltage. While the Eryurek reference employs a platinum resistance thermometer as a sensor, the output of that sensor is not modified as it is in the applicants invention. For example, Eryurek discloses:

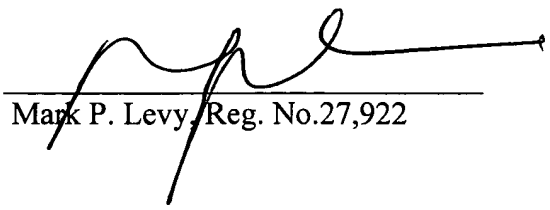
> "Microprocessor 52 calculates V.sub.TC according to Equation 6 above, then effectively subtracts the resistance of PRT sensor 116 from V.sub.TC using an appropriate look-up table or equation stored in memory 56. Then, the resulting compensated temperature of thermocouple element 18 is coupled to process control loop 42 through input-output circuit 58."

Paragraph 7 of the Office action rejects claims 1-3, 5, 8-10, 13, 16, and 17 as being anticipated by US Patent 4,576,487 to Conover. Figure 3 and column 12, lines 5-39 of Conover are cited as references. Conover teaches a thermally responsive control device that uses a "display where a visual indication of temperature is produced." The control device of Conover is operative for providing multiple control functions in response to single sensed temperatures, and when it is combined with the monitoring circuit of the instant invention, visual indications of sensed temperatures can be provided as well as visual indications of control parameters. One embodiment in Conover uses a transistor in the input circuit to linearize the input to the microprocessor. This use of the transistor is quite different than that of the FETs employed in certain embodiments of the invention in which the output, not the input, is modified. In another embodiment Conover's thermally responsive control device, the inherently nonlinear characteristic of a thermistor is compensated for by matching the thermistor with a nonlinear potentiometer so that a substantially linear relation is achieved between the temperature sensed by the thermistor and the degree of movement or manipulation required for changing the resistance of the potentiometer. However, the thermistor output is not modified as in the present invention.

For the foregoing reasons the applicants request the Office to withdraw the rejections and pass this case to issue.

The Commissioner is authorized to charge any additional fees required by this paper or to credit any overpayment to Deposit Account No. 20-0809.

Respectfully submitted,



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